OPTICAL FIBER RAMAN SOLITON LASER

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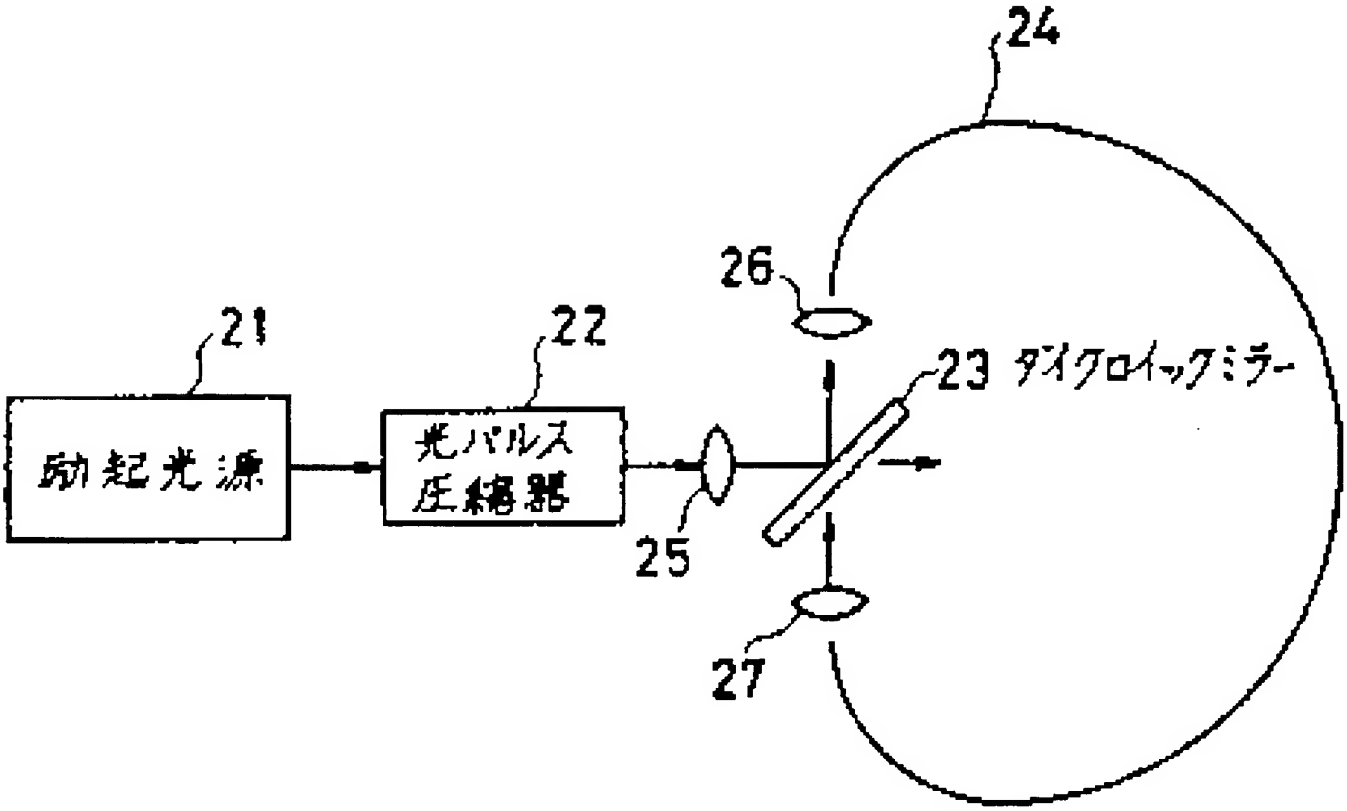
Abstract

PURPOSE:To obtain high output light soliton in a specific range which is the lowest loss band of silica optical fiber by adequately combining the pumping source and the optical fiber.
CONSTITUTION:With combination of an optical fiber 25 where P2O5 is doped to the core and a YAG laser 21, shift of wavelength of Stokes light can be set large. Therefore, the Stokes light of 1.5mum band ca be obtained with the direct pumping source of the YAG laser 21. Accordingly, a pumping source of large output can be used and the soliton output, several times larger than that of the color center laser, can be realized. Moreover, since the erbium laser 21 provides the oscillation wavelength of about 1.54mum and an output almost equal to that of YAG laser. With combination of the erbium laser 21 and GeO2 doped quartz core of pure quartz core fiber, the Stokes light can be obtained in the vicinity of 1.65mum. The silica optical fiber shows sufficiently low loss even in the wavelength of 1.65mum and therefore it can sufficiently be put into the practical use.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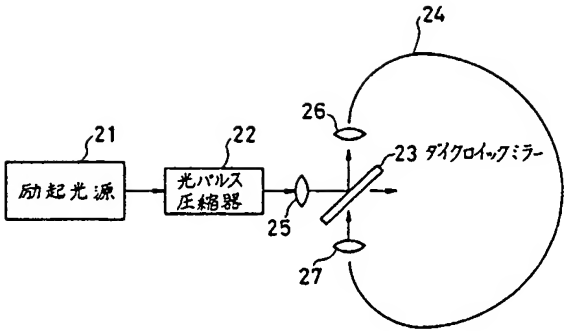
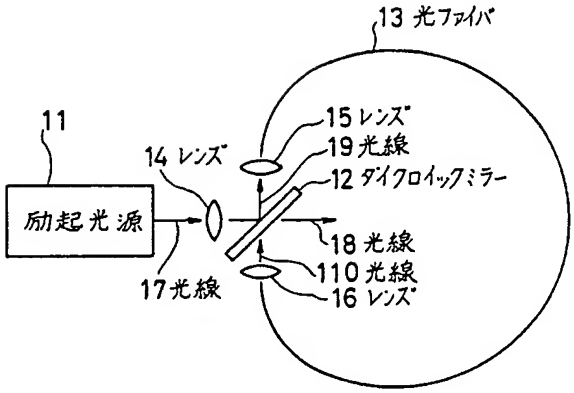


本発明実施例の構成図
第 1 図



従来例の構成図
第 2 図